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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the application of:

Tomokazu Obata, et al

Serial Number: 10/534,288

Filed: May 9, 2005

International Application: PCT/JP2004/016097

International Filing Date: October 29, 2004

For: SILVER ALLOY FOR REFLECTIVE FILM



Docket: TAN-117

Group Art Unit: 1742

Examiner: Janelle Combs-Morillo

APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Appeal to the Board of Patent Appeals and Interferences from the Final Rejection of claims 1, 6-9, and 13-15, mailed October 12, 2007 in the above identified case. A Notice of Appeal was filed on January 11, 2008. An oral hearing is not requested.

A credit card authorization is enclosed for the required appeal brief fee of \$510. The Commissioner is authorized to charge any additional fees which may be required by this paper, or credit any overpayment, to Deposit Acct. No. 18-1589.

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I. REAL PARTY IN INTEREST

The real party in interest is Tanaka Kikinzoku Kogyo K.K., the assignee of record.

II. RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal, please note that there are no other related applications on appeal or subject to an interference known to appellant, appellant's legal representative or the assignee.

III. STATUS OF CLAIMS

The claims in the application are 1-15. Claims 1, 6-9, and 13-15 are pending, stand rejected and are on appeal. Claims 2-5 and 10-12 have been previously cancelled. No claims are allowed.

IV. STATUS OF AMENDMENTS

A response was filed after final rejection, on November 29, 2007, however no claim amendments were made.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The currently pending independent claims are as follows:

1. A silver alloy for use in a reflection film, consisting of silver, gallium as a first additive element, and at least either dysprosium or thulium as a second additive element.

Support for this claim can be found throughout the specification, particularly on page 4, lines 5-11 and lines 20-25 which describe a silver alloy consisting of silver, and having gallium as a first additive element. Page 4 line 26 through page 5, line 10 provides support for at least one second additive element including dysprosium or thulium. Page 6, lines 3-5 disclose the use of this silver alloy in a reflection film.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

(a) Claims 1, 6-9 and 13-15 stand rejected under 35 U.S.C. 103 over Takagi et al. (U.S. Publ. 2004/0226818).

(b) Claims 1, 6-9 and 13-15 stand rejected under 35 U.S.C. 103 over Seuntjens (U.S. Pat. No. 6,294,738).

VII. ARGUMENTS

(a) The Examiner has rejected claims 1, 6-9 and 13-15 under 35 U.S.C. 103 as being unpatentable over Takagi et al.. Appellants respectfully urge that this is not the case.

The present invention relates to a silver alloy suitable as a constituent material for a reflection film to be provided in an optical recording medium, display or the like. The silver alloy is capable of maintaining reflectivity of the reflection film, during a long-term service.

The present invention claims a silver alloy for use in a reflection film, said silver alloy consisting of silver, gallium, and either dysprosium or thulium. The wording of claim 1 limits the present invention to alloys containing combinations of only these materials, no more and no less.

The Takagi reference relates to a sputtering target made of an Ag-Bi base alloy, having bismuth in solid solution with silver. Indeed the alloy of Takagi may further include other elements which are in common with the present invention, such as gallium or dysprosium or thulium. However, nothing in Takagi teaches or suggests an embodiment which *consists of* only silver, gallium, and either dysprosium or thulium, as presently claimed. That is, Takagi requires the presence of bismuth in all of their alloy

embodiments. This directly teaches away from the presently claimed invention, which requires the absence of bismuth, due to the presence of the phrase “consisting of”.

The Examiner previously pointed to MPEP §2111.03, which relates to the use of the phrase “consisting of” in the claims. MPEP §2111.03 specifically states that the transitional phrase “consisting of” excludes any element, step, or ingredient not specified in the claim. *In re Gray*, 53 F.2d 520, 11 USPQ 255 (CCPA 1931); *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948) (“consisting of” defined as “closing the claim to the inclusion of materials other than those recited except for impurities ordinarily associated therewith.”). Thus, the use of the phrase “consisting of” in the present claims excludes the presence of further ingredients, such as bismuth, in the presently claimed alloys, and thus renders the present invention patentably distinct and non-obvious in view of Takagi. The Examiner attempted to negate the present use of the term “consisting of”, by pointing to one case law exception provided in MPEP §2111.03, and relating to *Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1331-32, 70 USPQ2d 1508, 1516 (Fed. Cir. 2004). That case held that a bone repair kit “consisting of” claimed chemicals was infringed by a bone repair kit including a spatula in addition to the claimed chemicals *because the presence of the spatula was unrelated to the claimed invention*. Applicants respectfully urge that the exception of *Norian* clearly does not apply in the instant case, since the presence of bismuth in Takagi’s alloy is a key component of their claimed invention.

In the Examiner’s Advisory Action of December 10, 2007, she attempts to argue against Applicant’s citing of *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948) (“consisting of” defined as “closing the claim to the inclusion of materials other than those recited except for impurities ordinarily associated therewith.”). The Examiner has underlined the phrase “except for impurities”, as if to argue that the phrase “consisting of” does not effectively close the claim as argued by Applicants. However, the Examiner’s argument seems to speculate that if an impurity were present in the inventive alloys that it must be a bismuth impurity. Clearly, the Examiner would be going far beyond the teachings of the present invention to make such an extreme assertion. Furthermore, it is urged that even if the

present invention hypothetically contained such a small amount of bismuth that it could be considered a mere “impurity”, it would still be present in too small of an amount to be effective as required by the cited Takagi reference. Bismuth is a key component of their invention as evidenced in their title which reads “Ag-Bi-base alloy sputtering target, and method for producing the same”, and their claim 1 which reads, “A sputtering target made of a Ag--Bi-base alloy containing Bi in solid solution with Ag.” The entire invention of Takagi centers around the presence of bismuth in their alloy. Thus the Examiner is grossly incorrect in her implication that the hypothetical presence of bismuth in an amount that qualifies as an “impurity” in the presently claimed alloy would obviate the invention of Takagi.

In the Advisory Action, the Examiner further states that it would have been obvious to omit bismuth from the present invention. She asserts that “omission of a step or element AND its function is obvious”, citing MPEP 2144.04 and several case law selections. However, MPEP 2144.04 clearly states that *if the facts in a prior legal decision are sufficiently similar* to those in an application under examination, the examiner may use the rationale used by the court. This section goes on to state that “If the applicant has demonstrated the criticality of a specific limitation, it would not be appropriate to rely solely on case law as the rationale to support an obviousness rejection.” Applicants respectfully urge that the facts of these prior legal decisions differ from the facts of the present invention so greatly that the Examiner’s rationale is incorrect. In its broadest sense, the present invention claims certain alloys which *consist of* silver, gallium, and either dysprosium or thulium. The alloys of Takagi are made of silver and bismuth. It is clear that these alloys differ in makeup, with their only common component being silver. That being said, it would be grossly incorrect to assert that *any silver alloy* which does not contain bismuth would be obvious in view of the alloy of Takagi, because such non-bismuth containing silver alloys would not contain the functions or benefits associated with bismuth. This is essentially equivalent to the argument the Examiner attempts to make. The Examiner’s comparison of the absence of bismuth in the inventive alloys is clearly not analogous to the absence of additional axles of In re Larson, 340 F.2d 965, 144

USPQ 347 (CCPA 1965) (Omission of additional framework and axle which served to increase the cargo carrying capacity of prior art mobile fluid carrying unit would have been obvious if this feature was not desired), or the absence of a switch member of In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (deleting a prior art switch member and thereby eliminating its function was an obvious expedient.) These citations relate to highly intricate structures which contain one small difference from a previously known invention. These intricate cases clearly differ from the present alloy having three or four specific and basic components, as compared to the two components of Takagi's alloy. It is respectfully urged that the Examiner's arguments relating to MPEP 2144.04 and the associated case law do not apply here.

The Examiner further rejects the dependent claims, offering specific arguments against claims 7-8, stating that the additive percentages of these claims broadly overlap the percentages of supporting elements cited by Takagi. However, whether or not an individual feature of a dependent claim may be otherwise known in the art, it is urged that the overall combination of an independent claim with such a feature of the dependent claim should not be considered *prima facie* obvious. It is urged that all claims depending from claim 1 relate to *narrower* embodiments of the invention disclosed in claim 1. Therefore, where the subject matter of claim 1 is sufficiently inventive, for the reasons argued above, all claims depending from claim 1 should be considered inventive as well.

It is strongly urged that one skilled in the art would not have been inspired to formulate the presently claimed alloy upon reading the disclosure of Takagi. The alloys of Takagi and the present invention are clearly different, and would be considered so by one skilled in the art. Applicants therefore respectfully submit that the presently claimed invention is not *prima facie* obvious in view of Takagi, and that the 35 U.S.C. 103 rejection should be overruled.

(b) The Examiner has rejected claims 1, 6-9 and 13-15 under 35 U.S.C. 103 as being unpatentable over Seuntjens. Applicants respectfully submit that the presently claimed invention is not obvious in view of this cited reference.

Seuntjens relates to a method for fabricating silver or silver alloy tube stock. The Examiner cites column 6, lines 15-18 of Seuntjens, asserting that the listed materials for possible silver alloys broadly overlaps the presently claimed alloys. Applicants respectfully disagree. The paragraph pointed out by the Examiner lists possible materials which may be combined with silver to form a silver alloy. The paragraph specifically states that the metal dissolved in the silver can include gold, platinum, palladium, aluminum, magnesium, copper, lithium, sodium, potassium, calcium, beryllium, strontium, barium, yttrium, scandium, lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium, titanium, zirconium, hafnium, vanadium, niobium, tantalum, silicon, germanium, antimony, tin, lead, gallium, indium, thallium, zinc, bismuth, or mercury. Thus, Seuntjens broadly discloses the formation of a silver alloy which may contain gallium or thallium or dysprosium. However, this reference does not provide a single embodiment relating to an alloy consisting of silver and gallium, and either dysprosium or thallium. Thus, the presently claimed silver alloys are clearly not obviated by the Seuntjens reference.

In the Advisory Action, the Examiner argues against our comments above, asserting that “Seuntjens teaches that one or more metals can be alloyed with Ag, including Ga, Dy, and Th”, pointing to column 6, line 8 as well as column 6, lines 15-18. However, the sentence at column 6, line 8 states generally that “A silver alloy is a mixture of one or more metals with silver, where silver is the dominant amount of material in the alloy.” This is a general statement defining what an alloy is, and this definition is clearly known in the art. However, this definition does not prove that the alloys of Seuntjens contain *more than* one metal in addition to silver. Next, in the sentence at column 6, lines 15-18, it can clearly be seen that the list of various metals which may be dissolved in the silver

of Seuntjens alloy include a list of materials ending in “or mercury”. This shows that the alloy of Seuntjens contains silver and just *one* of these listed metals. Thus, the Examiner’s arguments in the Advisory Action fail to negate our assertion that Seuntjens only discloses silver alloys which contain gallium or thallium or dysprosium, which differs from the presently claimed alloys containing silver and gallium, and either dysprosium or thallium. The Examiner appears to be going to great lengths to come up with a multitude of flawed arguments and non-analogous case law citations in an attempt to prove obviousness where there is none.

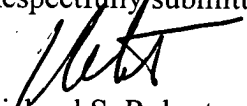
It is further urged that one skilled in the art would not have been inspired to look to the teachings of Seuntjens, in an effort to devise the presently claimed invention. The cited reference relates to alloys for tube stock, wire, tapes, cables, and the like. Nothing in this reference teaches or suggests any use reflection films at all. It is submitted that materials are optimized for their different uses, and that one skilled in the art would not have been motivated to seek out materials optimized for tube stock and the like, in an effort to devise an alloy suited for a reflection film.

The Examiner goes on to reject claims 9, 14, and 15 for stating that the term “sputtering target” does not impart any specific physical configuration, and that the materials of Seuntjens are therefore assumed to be useful as sputtering targets. The Examiner repeats this assertion in the Advisory Action. Applicants strongly disagree. First, sputtering targets are very well known in the ceramic and metal manufacturing fields. In fact, a search of the U.S. Patent and Trademark Office website yields over 1000 granted U.S. patents having the term “sputtering target” in the claims. Secondly, the Examiner has provided no scientific or factual showing to support his position that the materials of Seuntjens can be considered “useful” as a sputtering target. It is respectfully submitted that one skilled in the art would clearly understand the subject matter at hand when the term “sputtering target” is used, whether or not this is understood by the Examiner in this instance.

Regarding claim 7-8, the Examiner agrees that Seuntjens fails to mention the concentration percentages of the alloy elements as provided in the present claims 7 and 8. The Examiner goes on to assert that it would be obvious for one skilled in the art to determine optimal workable ranges for certain variables. However, as stated above, Applicants respectfully urge that all claims depending from claim 1 relate to *narrower* embodiments of the invention disclosed in claim 1. Since it is urged that the subject matter of the present claim 1 is sufficiently inventive for the reasons argued above, it is further urged that all claims depending from claim 1 are inventive as well. For all of the above reasons, it is urged that the presently claimed invention is not prima facie obvious in view of Seuntjens, and that the 35 U.S.C. 103 rejection should be overruled.

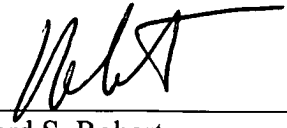
None of the cited references, taken alone or in combination, teaches or suggests the invention claimed by Applicants. For all the above reasons, claims 1, 6-9, and 13-15 are urged to be patentable over the cited references, and the rejections should be overruled.

Respectfully submitted,



Richard S. Roberts
Attorney for Applicants
Registration No. 27,941
P.O. Box 484
Princeton, New Jersey 08542
Tel: 609-921-3500
FAX: 609-921-9535
Date: January 30, 2008

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage pre-paid in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on January 30, 2008.



Richard S. Roberts

VIII. CLAIMS APPENDIX

1. A silver alloy for use in a reflection film, consisting of silver, gallium as a first additive element, and at least either dysprosium or thulium as a second additive element.
2. (CANCELED)
3. (CANCELED)
4. (CANCELED)
5. (CANCELED)
6. A silver alloy for use in a reflection film according to claim 1, wherein said second additive element is dysprosium.
7. A silver alloy for use in a reflection film according to claim 1, wherein the total concentration of the additive elements is 0.01-5.0 atomic %.
8. A silver alloy for use in a reflection film according to claim 7, wherein the total concentration of the additive elements is 0.01-1.5 atomic %.
9. A sputtering target consisting of the silver alloy, which silver alloy being defined in claim 1.
10. (CANCELED)
11. (CANCELED)
12. (CANCELED)

13. A silver alloy for use in a reflection film according to claim 1, wherein said second additive element is thulium.

14. A sputtering target consisting of the silver alloy, which silver alloy being defined in claim 7.

15. A sputtering target consisting of the silver alloy, which silver alloy being defined in claim 8.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.